

This Report provides a summary of the provisions of local governmental Land Use Plans, Zoning Ordinances, and Subdivision Regulations which specifically deal with the development of waterfront property. This Report was prepared for the Charleston Harbor Project. Certain environmental provisions from the above documents that pertain to development regardless of location, have been included where they would be major considerations in development of waterfront properties.

All local jurisdictions have adopted a Flood Plan Management and Drainage Ordinance, the provisions of which are essentially identical. A copy of the Berkeley County Ordinance is included as an example of the provisions of these ordinances.

Prepared by the Berkeley-Charleston-Dorchester
Council of Governments

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Berkeley County

Land Use Plan;

* Goals;

- * To minimize flood damage by encouraging land utilization which will not be seriously affected by periodic inundation;
- * To provide an aesthetically attractive environment by preserving scenic areas for public use and enjoyment;

*Policies;

- * The County should require the development and approval of an environmental impact statement for all large scale projects, or small scale projects in environmentally sensitive areas.
- * The County should designate environmentally sensitive areas and preclude large scale concentrated development within the designated areas.
- * The County should --- support the conservation of environmentally sensitive areas such as wetlands and flood plains.

Zoning and Development Standards Ordinance:

- * "Critical Areas" as defined by the S.C. Coastal Council are delineated on the Official Zoning and Development Standards Maps and, as such, are a part of this Ordinance.
- * Flood Hazard Boundary Maps as prepared by FEMA are adopted by reference and are fully a part of this ordinance.
- * Special Permit required for Outdoor Storage Uses (Junkyards & open air storage yards, and, Waste Disposal Facilities) which requires the applicant to submit a drainage plan for the site that meets the requirements of the County Drainage and Zoning & Development Standards Ordinance.
- * One of the intentions of Flexible Districts is to preserve wetlands, watercourses and other significant natural areas, and to preserve the scenic quality of the landscape.

- * The Pre-Development Review of development in F-2 & F-3 Districts requires the development of a Master Plan which shows major drainage outfalls and describes proposed onsite stormwater retention or detention systems.
- * Development Plans must identify and show the location of the environmental and natural resources on the property. These resources shall include rivers, streams, creeks and other watercourses; wetlands, including marshes, swamps and natural retention areas; lakes and ponds; habitat of rare or endangered species if such information is reasonably available; climax forests; and any other unusual or noteworthy natural feature(s) located on the property.

Plan must also show the location of noteworthy cultural and archaeological resources if any contained on the property.

Plan to include a drainage plan for the site.

If the development is designed such that;

- a. the first inch of rainfall is retained onsite; and,
- b. no residential structures are built within the 100 year floodplain, residential density on the development site may be increased by 10%.

- * Environmental Performance Standards;

Watercourses & Bodies of Water;

Generally, no structures may be constructed in or above existing watercourses and bodies of water, with the exception of bridges, recreational docks and piers, and other unenclosed recreational structures.

Generally, the filling or alteration of watercourses and bodies of water is prohibited; provided, however, that at the Zoning Administrator's discretion, small watercourses may be diverted or altered if;

- a. the alteration is part of a comprehensive drainage plan for the site;
- b. such drainage plan will provide for no significant increase in stormwater runoff or siltation during construction and at buildout, and will improve drainage on-site; and,
- c. necessary alterations for required roads.

Wetlands

The alteration of wetlands is discouraged.

For wetlands subject to the jurisdiction of the S.C. Coastal Council, a permit to alter wetlands must be obtained from the Coastal Council before any alterations are made.

For wetlands not subject to Coastal Council jurisdiction the Zoning Administrator may permit alterations for 1, pilings for docks and piers; 2, alterations that are part of a comprehensive drainage plan; and, 3. necessary alterations for required roads.

Shorelines

Generally, living trees of greater than 6 inches in circumference may not be removed within 50 feet of watercourses, bodies of water and wetlands, unless the felled tree is replaced by another similar tree.

Generally, grading, filling, excavation or other land altering activity is not allowed within 50 feet of watercourses, bodies of water and wetlands.

These restrictions shall not apply to; 1. access paths, providing ingress to and egress from the watercourse, body of water or wetland; 2. community recreation areas, either public or private; 3. necessary alterations for required roads; 4. pilings for docks and piers; and, 5. other necessary support structures for water-dependent uses, where alternate siting is not reasonably available.

No impervious surfaces may be constructed within 50 feet of watercourses, bodies of water and wetlands.

Flood Hazard Areas

It is the responsibility of each developer or landowner to ascertain whether a proposed structure is situated on land designated as a flood hazard area by the FEMA. Any structure located in a designated flood hazard area must meet the applicable construction and locational standards established by FEMA.

For any development proposed within a designated flood hazard area, or on adjoining property either upstream or downstream from the designated flood

hazard area, the developer must submit a drainage plan that will ensure that, 1. structures built on the property will not be flooded, and roads serving these structures will remain passable, as a consequence of a ten year rainfall event; and, 2. development on the site will not significantly increase the incidence or severity of flooding either upstream or downstream.

The use of curbing on streets and parking areas, -- -, is considered less desirable than stormwater management methods utilizing interrupted, pierced or perforated curbing, and other stormwater management systems which allow for sheet flow of runoff. Where the drainage plan shows that stormwater will be adequately managed without the use of curbing, the County Engineer will waive the curbing requirement contained in the Subdivision Regulations.

All developments will utilize non-structural control methods, such as the placement of pine straw bales, to minimize runoff, siltation and erosion at the development site during land alteration and construction phases of development.

Developments Affecting Properties Listed on the National Register of Historic Places.

Special Area Permit required for any development which would be visible from a Register Listed Property up to 10,000 feet up or down a riverscape.

Applicant shall demonstrate that the best available development and management practices will be used to minimize adverse impacts on the Register Listing.

No structure shall be more than three stories in height, or taller than the top of the surrounding tree canopy, whichever is lower.

Within 100 feet of the edge of the river, or of wetland areas abutting the river, no trees shall be removed except in accordance with a approved Landscape Plan. This Plan shall; 1. provide for the maintenance of a tree buffer that screens the development from the Register Listing; 2. provide for the retention of natural vegetation and topographical features to the maximum extent practicable; 3. provide for the planting and maintenance of additional vegetative buffers as needed to effectively screen the development from the Register Listing; and, 4. comply with those

Environmental Performance Standards of this Ordinance pertaining to shorelines. Landscape Plan is not required for access paths less than 12 feet in width that provide ingress to and egress from the river or wetland area.

The owner of a structure or property listed on the National Register which may be by a development or activity for which a permit is required under this section shall have standing to; 1. petition the Zoning Administrator or the circuit court for Berkeley County for the cessation of any activity for which a Special Area Permit is required but has not been granted under this section; and, 2. appeal the granting of a Special Area Permit, or the conditions contained in such Permit, to the Zoning Board of Adjustment ---, and shall be construed to be a person having a substantial interest in the decision of the Board of Adjustment.

Subdivision Regulations;

- * Preliminary Plat to show proposed drainage and a description of all proposed erosion and sedimentation control measures.
- * Drainage Easements. Where a subdivision is traversed by a water course, drainage way, channel or stream, adequate areas for storm water or drainage easements shall be reserved, conforming substantially with the lines of such water courses, and of sufficient width to carry off storm water and to provide for maintenance and improvement of such water courses. Drainage easements shall mesh with other drainage systems in the vicinity, and be integrated into the county-wide drainage canal system, so that hazard to properties within the proposed subdivision are minimized, and hazard to other properties down-grade from the proposed subdivision will not be adversely affected by the increased run off after development. Where practicable, drainage easements shall center along or be adjacent to a common property line. The minimum acceptable drainage easement will be determined by the following formula: three times the depth, plus the bottom width, plus twenty feet. The ditch will be offset in the easement to provide fifteen feet on one side (the same side for the length of the easement) for the purposed of maintenance.

A drainage system shall be designed and constructed by the subdivider to provide for the proper drainage of the surface water of the subdivision and the drainage area of which it is a part, to permit the unimpeded flow of natural water courses and to protect both residents of the proposed subdivision and down-stream property owners from increased runoff resulting from development. Design of the system shall be based on the rational method of determination utilizing the ten year rain frequency curve with consideration of the 100 year flood information. All street crossing drainage facilities shall use a minimum of 18 inch pipe.

Where adequate existing public storm sewers or drainage canals of the county-wide system are reasonably accessible, the Planning Commission may require that the system proposed for the land being subdivided be connected thereto.

Street drainage shall supplement the county-wide drainage canal system. All streets shall be provided with an adequate storm drainage system, integrated into the County-wide drainage system. The use of asphalt valley sections and/or inverted crowns for street drainage shall be prohibited. The Planning Commission may require concrete curbs and gutters.

The off-street system shall include the watershed affecting the subdivision and shall be extended to a watercourse or ditch adequate to receive the storm drainage -- the subdivider shall provide all required easements --- when open ditches are used, they shall be adequately protected from erosion with approved vegetation, rip-rap, concrete lining, or other approved method.

Developers shall take measures to ensure that the amount of off-site sedimentation runoff and erosion does not increase from pre-construction levels.

Areas subject to flooding. If the area being subdivided, or any part thereof, is located within the boundary of a Designated Flood Hazard Area, --- adequate plans and specifications for protection from flooding shall be provided as herein required and as may be specified by the Planning Commission upon review;

- a. Any plat of a subdivision which contains land subject to flooding shall be accompanied by evidence that no appreciable expansion of the area subject to flooding would result from the proposed development of the land being subdivided, and that the proposed development will be adequately protected from inundation without appreciable interference with the flow of any water course or into an impounding basin.
- b. In no case shall any fill, levee or other protective works be approved unless sufficient compensating adjustments of waterways, ditches or impounding basins are made to prevent any appreciable expansion of flood hazard areas.
- c. The center line of all streets should be at least on the ten year flood line.

It is the intent of Santee Cooper to enhance the protection and welfare of life and property for those residents living in the Santee Flood Plain that may be affected by a breach of the Santee Dam. To that end, Santee Cooper has entered in agreement with Berkeley County to aide and assist the county with available resources in the form of mapping, flood plain delineation, determination of affected dwellings, and establishment of first floor elevations for proposed residential construction. The county will utilize this information to establish and enforce a flood plain ordinance for the Santee River where it adjoins the county.

Responsibilities of Santee Cooper

- * Provide technical support through the development and updating of flood plain mapping for the Santee River.
- * Establish and maintain flood information that will be used to determine dam break flood levels for any point along the Santee River where it adjoins the county.
- * Provide the county with a list (by tax number) of land parcels affected by the flood and those existing dwellings already established in the flood plain.
- * At the request of the county, Santee Cooper will determine the existing ground elevation and maximum flood water elevation for a proposed dwelling location as established in the county's construction permitting system. Santee Cooper will then recommend a minimum first floor elevation within 3 days of the request.

An Agreement

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- * Santee Cooper will annually update its mapping to ensure that all affected dwellings are accounted for. This will be accomplished by tax office investigation, field reconnaissance, and aerial reconnaissance. Santee Cooper will provide the county with an account of its findings.
- * Santee Cooper will provide verification of first floor elevation determination should the county require substantiation of the recommended elevation.
- * Santee Cooper will provide all reasonable care in maintaining and operating the Santee Dam to ensure the welfare of life and property for those living in the Santee River Flood Plain.
- * Santee Cooper will provide first floor elevation certification on all covered parcels of property located within Santee Flood Plain as determined by Santee Cooper.

Responsibilities of Berkeley County

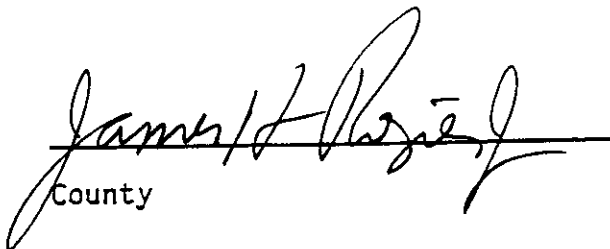
- * The County will incorporate the dam break flood information for the Santee River as provided by Santee Cooper for the purpose of establishing first floor elevations for proposed residential construction in that flood plain. These flood elevations are established from dam breach parameters and take precedent over FEMA established elevations only when the dam breach flood elevations exceed the FEMA flood elevations


An Agreement

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- * The County will review each construction permit request to determine its proposed location requirements in comparison to the Santee River flood plain location. The county will also compare the proposed permit with the list of affected tracts of land provided by Santee Cooper.
- * The County will contact Santee Cooper for proposed construction within the Santee River Flood Plain requesting a determination of proposed first floor elevation for the structure.
- * The County will provide enforcement of the pertinent ordinances for this agreement to ensure the welfare of life and property for its citizens.

It is the intent of this agreement that it be both effective and efficient in its performance. Should either party wish to modify this agreement for either of these reasons, a meeting time and place will be established by the initiating party to discuss and establish changes without affecting the original intent of the agreement.


County


Santee Cooper Exec. Vice President

City of Goose Creek

Land Use Plan:

- * Recommendations that the City and County jointly develop a Drainage Plan for the Goose Creek Area, and that the City should continue to participate in the Federal Flood Insurance Program.

Zoning Ordinance:

- * On undeveloped lots, parcels, tracts, and acreage in any District it shall be unlawful to fell any tree measuring four inches in diameter (measured four and one half feet above grade), or otherwise commence development, clearing, grading, filling or excavation until the Administrator has approved the appropriate permit.
- * The clear-cutting of trees and vegetative cover on any lot, parcel, tract or acreage in any District is specifically prohibited.
- * Sec. 502 - Flood Hazard Controls - In any zoning district of the City -- , development shall be in accordance with the current Flood Insurance Rate Map and Flood Boundary and Floodway Map --, published by FEMA. Provisions are intended to;
 - restrict or prohibit uses which would result in damaging increases in erosion or flood height/velocity, and restrict or prohibit all uses which are dangerous to safety, health, or property;
 - require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
 - control the alteration of flood plains, stream channels, and protective barriers which are involved in the accommodation of flood waters;
 - control excavation, filling, grading, dredging, and other actions which may increase erosion and/or flood damage; and,
 - prevent or regulate the construction of flood barriers which would un-naturally divert flood waters or which may increase flood hazards to other lands.

- * During the permit process -- the Zoning Administrator shall insure that all applications for activities in special flood hazard areas include such information as necessary to secure the protections intended by these regulations, such as:
 - Description of the extent to which any watercourse will be altered or relocated as a result of the proposed development;
 - Elevation in relation to mean sea level of the proposed lowest floor (including basements) of all structures;
 - Elevation in relation to mean sea level to which any non-residential structure will be flood proofed; and,
 - Certification from a registered engineer or architect that the non-residential structure flood proofing meets criteria in other sections of the ordinance defining "Flood Proofing".
- * Adjacent communities and the SC Water Resources Commission are to be notified of any proposed alteration to a watercourse.
- * Zoning Administrator is to assure that maintenance is provided within the altered or relocated watercourse so that the flood carrying capacity will remain undiminished.
- * General provisions are required in all areas of special flood hazard, such as:
 - using only construction materials and utility equipment which is resistant to flood damage;
 - anchoring of all structures to prevent flotation, lateral movement or collapse;
 - applying construction methods and practices which minimize flood damage;
 - designing water systems to minimize or eliminate flood water infiltration into the system;
 - designing sanitary sewer systems to minimize or eliminate discharges into flood water, and infiltration of flood water into the system; and,
 - locating on-site waste disposal systems to avoid flood impairment or contamination from them during flooding periods.

- * In all zoning districts, the installation of signs in wetlands shall not be permitted except by governmental entities or with the permission of governmental entities.

- * Municipal Impact Fees required.

Subdivision Regulations: The City of Goose Creek utilizes the Berkeley County subdivision regulations. See Berkeley County.

City of Hanahan:

Land Use Plan: In process of revision.

Zoning Ordinance:

* CP Conservation-Preservation District:

Purpose. to preserve and control development within certain land, swamp and/or water areas of the City which have the following characteristics;

- a. serve as wildlife refuges.
- b. possess great natural beauty or are of historical significance.
- c. are utilized for outdoor recreational purposes.
- d. provide needed open space for the health and general welfare of the District's inhabitants.
- e. are subject to periodic flooding.
- f. historical value or significance.

Permitted Uses.

- a. private boat dock or boat house.
- b. public utility line, fire or water tower or substation.
- c. publicly owned and/or operated park, open space, recreational facility or use, and the equipment necessary for servicing the users.
- d. agricultural farming.
- e. horticultural farming.
- f. wildlife refuge, including one family dwelling unit of caretaker employed to maintain and protect the refuge.

Other Requirements.

- a. minimum lot area: 1 acre.
- b. min. lot width at building line: 200 ft.
- c. min. front yard: 50 feet.
- d. min. side yard: 25 feet.
- e. min. rear yard: 25 feet.
- f. max. building height: 35 ft.

Subdivision Regulations;

- * Land subject to flooding, and land otherwise deemed by the Planning Commission to be unsuitable for development, shall not be platted for such uses as may increase danger to health, life or property, or aggravate the flood hazard. This includes designated flood prone areas indicated on the current FIA Flood Hazard Boundary Map.

- * Preliminary Plat must show storm drainage, and areas subject to flooding, preliminary plans for storm drainage.
- * Drainage easements of a width required for handling storm drainage shall be provided where needed along streams and drainage ways. Such easements shall be consistent with the 50 year Drainage Plan.
- * In reviewing subdivision plans the Planning Commission shall consider the needs for open space and recreational land areas. If such needs are determined to exist, the Planning Commission may require the subdivider to dedicate a portion of the land area to the City as open space. (Formula included for determining the land area required). Commission must approve the location of the donated land and the donation must be approved by City Council.
- * A plat of a proposed subdivision submitted to the Planning Commission for approval which contains lands subject to flooding shall have such areas delineated as being subject to flooding. Development of lots which would have a detrimental effect on local environmental conditions is prohibited.
- * A storm drainage system designed to protect proposed development from flooding shall be provided in every subdivision. The system shall be adequate to carry off all storm water in its drainage area and shall be installed to city specifications. Where a public storm sewer is reasonably accessible as determined by the Planning Commission, the subdivider shall connect with such drainage system. The developer shall do all grading and provide all necessary drainage structures to carry the water and to conform with the city standards and specifications.

Town of Moncks Corner

Land Use Plan:

- * Plan identifies areas of poor drainage, flooding, spoil deposits or borrow pits, as areas with natural constraints upon future development.

Town is currently up-dating the Land Use Plan.

Zoning Ordinance:

- * Industrial and Planned Development Districts must have approved plans and specifications for proposed storm drainage facilities.
- * All uses must satisfactorily comply with the requirements of the Berkeley County Health Department, regarding the protection of waterways from pollution by waste materials and the protection of the atmosphere from pollution by dust, smoke, or other waste materials as well as meeting the standards of the State Department of Health and Environmental Control.

Subdivision Regulations:

- * Land subject to flooding --- shall not be platted for such uses as may increase danger to health, life or property, or aggravate the flood hazard.
- * Preliminary Plat must provide existing drainage information, wooded areas, marshes, ponds and watercourses including the acreage of upstream drainage areas, and, areas subject to flooding. Proposed site data must include the proposed drainage system. A lot having more than one quarter of its area subject to flooding shall not be approved.
- * Final Plat shall include storm sewers and easements.
- * All subdivision grading shall be done in such a manner as to preserve natural vegetation and topographic features.
- * All disturbed areas within any road rights-of-way in a subdivision shall be treated to prevent or control sedimentation and erosion in accordance with the design standard in the U.S. Department of Agriculture, Soil Conservation Service's publication "Erosion and Sediment Control: Planning Guidelines Design Aids", July, 1974.

- * A storm drainage system designed to protect proposed development from flooding shall be provided in every subdivision. The system shall be adequate to carry off all storm water in its drainage area, shall not increase the hazard of flooding to areas down grade from the proposed development, and shall be installed to specifications of the Town's engineer. Where a public storm sewer is reasonably accessible as determined by the Planning and Zoning Commission, the subdivider shall connect with such drainage system. The developer shall do all grading and provide all necessary drainage structures to carry the water and to conform with the Town standards and specifications.

Awendaw Land Use Plan

Participants: Charleston County - Awendaw Land Use Study
Committee - 1990

- * The rural character of the Awendaw study area should be protected in order to maintain the area's beauty. Uniqueness, natural resources and agricultural value. Planned Developments are encouraged.
- * Recommends that increases in residential density be utilized as an incentive for the donation of lands or easements to preserve open spaces and scenic vistas.
- * In areas served by the Mt. Pleasant Waterworks and Sewer Commission, for acreage of developable highland retained as pristine in a development, an equivalent acreage will receive a density bonus of three units per acre. Two units per acre in other areas.
- * Preservation of native trees and natural vegetation is encouraged as a preferred means to meet screening, buffering and landscaping goals in this Plan.
- * In order to avoid the possibility of harmful stormwater runoff from developments into area marshes, creeks, rivers, and estuaries, it is recommended that a fifty foot building setback be imposed. Additionally, any development must meet Coastal Council requirements for stormwater runoff.
- * Best management practices should be required with regard to drainage, to eliminate post-development impacts to neighboring properties, incorporate wetlands and other natural areas, and ensure that runoff does not negatively impact environmentally sensitive areas.
- * In order to preserve/upgrade water quality, the County should encourage environmentally sensitive drainage systems, including use of natural stormwater filtration systems, on new developments abutting or adjacent to area rivers, creeks, lakes, and the Intracoastal Waterway. This is intrinsically important, but should receive additional emphasis in light of the importance of protecting shell fish areas from potential contaminants in stormwater runoff.
- * County Council should lobby SCDHEC to upgrade water quality in the area from Dewees Inlet eastward to the South River from its present SHW (Shell Fish Harvesting Waters) designation.

- * Council should support the lobbying efforts of the SC Coastal Conservation League to upgrade certain appropriate area streams and creeks to the Outstanding Resource Waters designation.
- * Council should conduct a survey of the areas to identify scenic roads and valuable vistas which are worthy of protection. An ordinance to protect such sites should be adopted.

Edisto Island Land Use Policy Recommendations

Participants: Charleston County - Edisto Island Study
Committee - 1985

- * Planned Developments should be encouraged as a means to minimize possible conflicts between development and agriculture, and, to help preserve the natural environment.
- * The impact of development on the land, marshes, and waters of Edisto Island should be minimal.
- * For every acre above the SC Coastal Council Critical Line retained as pristine in a development, there shall be a bonus of 2 units per acre, above the three allowed in agricultural zoning.
- * A Scenic Highway District should be established along Highway 174, south of the Dawhoo River. A purpose of such designation would be to conserve and enhance the natural environment.

James Island Land Use Policy

Participants: Charleston County - City of Charleston - City of Folly Beach - James Island Public Service District-Residents Association of James Island -1987.

- * All new developments, with the exception of single-family or two-family developments should be reviewed by the City or County for site-specific considerations including; existing elevations and contours, including bodies of water and flood plain elevations; existing and proposed easements; public rights-of-way and private roads; and existing drainage ways; and, proposed ditches, swales, pipes, basins, inlets and other drainage structures.
- * Agricultural land should be preserved if possible and where appropriate. When development on agricultural land does occur, projects should be designed in a manner sensitive to natural habitat and environmental concerns. Within a Planned Development, for every acre of undeveloped environmentally significant high land retained as pristine, there shall be bonus of two units per acre additional to the allowed units. Environmentally significant high land may include, but is not limited to, naturally vegetated land adjacent to wetlands, streams, lakes and rivers.
- * Development should occur sensitive to the natural habitat and environmental concerns: preserving site characteristics such as naturally vegetated areas and waterways which can protect the integrity of agricultural lands and natural features.
- * Owners of properties consisting large oak trees or scenic marsh areas adjacent to public or private roads should be encouraged, wherever possible, to donate or dedicate conservation easements to the Lowcountry Open Land Trust or similar land preservation groups for protection or preservation.
- * Tree preservation ordinances should be enacted.
- * Recommends that new commercial and residential developments utilize piped as opposed to open ditches, and where feasible, open ditch drainage should be replaced with piped drainage.
- * City and County should formulate a stormwater drainage plan for the Island and jointly review proposed developments where drainage systems may impact properties in both jurisdictions.

- * Scenic Highway Districts should be designated, a purpose such designation would be to conserve and enhance the natural environment.

Johns Island Plan

Participants: City of Charleston - Charleston County - Johns Island Steering Committee. 1988.

- * Recommend that the City and County lobby DHEC and the COG to remove all point source discharges on Johns Island, including package plants, by requesting permit renewals be denied. Specifically, these include Buzzards Roost Marina, St. Andrews PSD Savage Road Plant, Swygert Shipyard, Dunmovin, Sea Island Comprehensive Health Care Center, St. Johns High School and Haut Gap Middle School.
- * City and County Councils should instruct their engineering staff to require best management practices designed to reduce velocity, particulate and contaminants in stormwater point source discharges, including filtration through wetlands or manmade filters and use of detention basins.
- * To control environmental impacts of run-off and prevent flooding, City and County Councils should adopt a unified stormwater management plan.
- * In upgrading existing roads or constructing new ones, use of swales should be considered. Roadway designs that use swales should allow safe vehicular/pedestrian movement, adequate stormwater conveyance capacity and easy maintenance.
- * City and County Councils should enact ordinances establishing building setbacks and natural buffers on properties adjacent to or containing pristine freshwater or saltwater wetlands, in which no pesticides, fertilizers or herbicides can be used.
- * City and County Councils should adopt unified drainage criteria, and encourage techniques which integrate wetlands for stormwater filtration and ground water recharge within acceptable Coastal Council "Freshwater Guidelines".
- * Promote enhancement of compromised or low value wetland systems to increase environmental diversity, productivity, and benefit:
 - promote environmental enhancement of low value wetland ditches which were originally dug across Johns Island for drainage purposes; and,
 - promote the integration of wetlands inundation and stormwater treatment to achieve dual goals.

- * City and County Councils should adopt ordinances protecting endangered species with buffer zones around their habitats.
- * City and County Councils should adopt uniform scenic corridor district ordinances, requiring natural buffer areas, preventing road widenings along scenic roads. Buffers should not be disturbed for any purpose, with utilities consolidated parallel to, but not within such buffer areas, and placed underground where practical.
- * City and County Councils should adopt uniform ordinances protecting scenic corridors along all SC Coastal Council critical lines and freshwater wetlands as established by the US Army Corps of Engineers.
- * City and County Councils should adopt unified tree protection and landscaping ordinances for non-single family properties. These ordinances should promote development sensitive to trees; near trees, encouraging extensive buffering in the design areas and plantings in scale with the environment.

61 Corridor Growth Management Plan

Participants: City of Charleston - Charleston County -
Dorchester County - Highway 61 Steering
Committee.

- * Goals; to restore and enhance developed areas south of Church Creek; and, to preserve and protect undeveloped areas north of Church Creek.
- * There should be no commercial development north of Church Creek on Ashley River Road except at the intersection of Highway 165 and Ashley River Road.
- * Ashley River Road should be preserved as a two lane scenic highway north of Church Creek.
- * Zoning Ordinances should be amended to include a historic overlay district, performance standards specifically designed for this district as well as the entire study area, and stricter signage controls.
- * In consideration of the view and need for open space along the river, there should be a required setback and a buffer for developments along the Ashley River.
- * Local Governments should work closely with the SC Coastal Council to manage stormwater runoff and other non-point sources of pollution.
- * All uses which negatively impact the pristine quality of the Ashley River should be prohibited.
- * Environmentally sensitive areas should be defined as: marshland, the 100 year flood plain and soils with severe limitations for commercial and residential development.
- * Encourage lower density cluster developments in environmentally sensitive areas.
- * Marshland should not, by itself, satisfy open space requirements in new developments.
- * Encourage public access to the Ashley River.
- * Sewer lines should not be extended up Ashley River Road beyond Drayton Hall Middle School to ensure lower density development in this area.
- * Recommends that a park be built across the Ashley River from Old Fort Dorchester.

- * Consideration should be given to preserving the Oak canopy, the Ashley River vistas and open space when development plans are reviewed.

- * Development Standards Guidebook;

- * Public access along the Ashley River should be encouraged by establishing a minimum building setback of 50 feet from the River's edge - defined as the head of the riverbank slope. Creation of a pedestrian/bike pathway system along the River bluff should be pursued.

- * Development should be restricted from the 100 year floodplain.

- * Development should not be permitted in wetlands, except for public roadways and utility lines, if their location elsewhere is problematic. Development at the edge of wetlands should be no closer than 50 feet of the wetland area.

- * Natural drainage systems are recommended, such as the utilization of natural swales rather than pipes, and roads with swales at the edge of the roadway rather than curbs.

- * Site planning for residential, commercial, office, and industrial development should incorporate the following basic design principles:

- preservation of natural features
 - clustering of structures to maximize open space
 - optimizing views of open space
 - creating focal points and areas for user identity
 - utilization of personal, or human, scale
 - minimization of separate vehicular access points

- * Clear cutting of existing vegetation should be prohibited from occurring as a pre-development undertaking. Selective clearing practices should be followed.

- * Wherever possible, utilities should be placed underground and in road rights-of-way, where clearing is necessary. Utilities should not be placed in buffer areas.

- * Runoff from the site shall not be any greater after development than before.

- * Developments should provide for the preservation and maintenance of common open space.

- * A minimum of 25% of gross site area should be set aside as common open space area. (excluding marsh, wetlands, flood plains or other areas where development is prohibited due to environmental restrictions.

Wadmalaw Island Land Planning Committee

Participants: Charleston County - Wadmalaw Island Land Planning Committee - 1988.

- * Wadmalaw Island Land Planning Committee recommends that a broad range of general planning criteria be used by appropriate planning and governmental agencies which include the following:
 1. The preservation of the rural and non-rural pattern of development.
 2. The encouragement and preservation of agriculture.
 3. Row crops, tree farming, shrimping, fishing and aquaculture are to be encouraged.
 4. The preservation of the nature of the terrain, soil, water resources, creeks and rivers and their natural wildlife.
 5. The preservation of the soil's capacity to absorb rainfall and the vial necessity of maintaining an abundant supply of drinkable well water from the limited and diminishing available fresh water aquifer.
 6. The SAA water quality standards should be maintained and encouraged for all rivers and creeks. No sewer, treated or untreated, and no pollutants should be discharged into surrounding waters, directly or indirectly, and all such current discharges will be encouraged to be removed.
 7. The adverse impact from non-point surface pollutants such as runoff, from reduction of natural habitat, from increased human disturbance of natural systems, from adverse pressure upon the limited fresh water supply and upon critical forest and wetlands should be minimized wherever feasible.
 8. The specific environmental impact be addressed in any decision allowing a change in land use or increase in density.
- * The Bears Bluff laboratory should be developed for recreational use, should the present use ever be discontinued by the federal government. Until such time as that site may be available, other sites should be explored that allow rights to water at public land sites.

Charleston County

Zoning Ordinance:

- * When a lot line is in a natural waterway, a setback from that lot line is not required.
- * Planned Development District; Site Plan must show existing site conditions including soils analysis and a drainage plan --.
- * Applications for Mobile Home Parks and Mini-Warehouse Facilities must include a Drainage Plan.
- * Marinas: Defined as a basin or marine terminal that provides space, docks, moorings and related facilities and services for six or more pleasure boats.

Permitted Uses;

- A. Services. Marinas may provide the following services if specifically authorized by a Conditional Use Permit approval; 1. launching ramps and small hoists (only accommodate watercraft not exceeding 4000 pounds in Residential and Agricultural Residential Districts); 2. piers, wharfs and other facilities for the berthing -- of recreational watercraft; 3. dockside maintenance and repair necessary to keep watercraft in operable condition; 4. wet storage and mooring of sea worthy pleasure craft in operable condition; 5. dispensing of fuel in conformance with National Fire Protection Codes; 6. shower and laundry facilities for marina clientele only; and, 7. vending machines.
- B. Additional Services. Excluding marinas in R and AR Districts, marinas providing 50 or more boat slips may provide the following additional services; 1. bait and tackle retail sales; 2. retail sales of basic marine supplies and accessories necessary for boat operation, maintenance and upkeep (not to include the sale of boats and/or motors); and; 3. snack bars and retail groceries.

Performance Standards.

- A. Lot size and location; the property shall have a minimum of one acre of high ground above the mean high water mark when public water and sewer are available, shall have frontage on a public-owned road, and have a minimum width of

150 feet at the water front.

- B. Services; All services provided by the marina shall be located on the same zoning lot or on the piers associated therewith.
- C. Structures. All retail sales and services shall be enclosed. The maximum structure size or bulk shall be limited to 10 square feet of net floor area for each boat slip.
- D. Setbacks. All structures shall be set back a minimum of 100 feet from abutting property zoned as AR or R Districts except where the property line is the street right-of-way line, in which case the front yard established for the zoning lot shall apply.
- E. Parking. Off-street parking shall be provided in accordance with Article 30.65. Any parking associated with the use of the launching ramp and other marine activities must be accommodated on-site. Parking surfaces and off-street roads or driveways within the facility shall be graded and covered with a permanent dustproof surface.
- F. Storage. Areas for boat trailer storage and open field boat storage shall be designed and screened in accordance with Sec. 30.10.20 from any adjacent AR or R Districts. Open field boat storage on trailers may be provided on a ratio of one 10 x 20 space for each two boat slips.
- G. Screening. Marina developments, including areas for boat trailer storage and open field boat storage, shall be screened from adjacent uses in accordance with Chapter 28 and Sec. 30.65.80.
- H. Signs. Sec. 30.80.0631 shall apply for all signs located within the district. Those signs which identify commercial activity shall be placed and designed so as not to attract the general public.
- I. Wastewater Disposal Facilities. Wastewater disposal facilities shall meet the requirements of the regulatory agencies having jurisdiction.
- J. Firefighting and Fire Prevention. Firefighting or fire prevention equipment shall be as specified by the local fire district in which located.
- K. Siting Standards. The issuance of a conditional use permit for a marina shall be subject to the siting standards contained in the Marina Impact Matrix

adopted by County Council on March 5, 1985.

- * Zoning Permit Application must include the finished first floor elevation above mean sea level requirement and the flood hazard zone designation if in a special flood hazard "A" or "V" zone.
- * An approved S.C. Coastal Council permit is required prior to the issuance of a zoning or building permit below the Coastal Critical Line.

Subdivision Regulations:

- * No platting of land for residential use is to occur in areas subject to flooding by normal tides,, swamps, marshes, or in other undrained areas unless suitable provisions are made for satisfactory drainage. The drainage system shall be designed and constructed in accordance with the requirements of the current edition of the County Road Code.
- * Easements for drainage or sewer along rear and side property lines may be required where necessary. Drainage easement across lots shall not be allowed. Redesign of the lot arrangement may be required to meet extreme drainage conditions.
- * Drainage easements shall be provided and dedicated in accordance with the requirements of the current edition of the County Road Code.
- * No subdivision shall block or obstruct the natural drainage of an adjoining area.
- * Existing natural drainage shall be retained or adequately relocated.
- * All easements for drainage or sewer shall be cleared of undergrowth, trees, and other obstructions by the developers prior to final approval. This does not apply to easements which are provided for possible future use.
- * Utility, drainage and street improvements shall be as required by and in conformance with the standards and specifications of the current edition of the County's Road Code.
- * All lots not exceeding 200 feet in depth shall be provided with means for positive drainage and shall have a slope of not less than 0.70% to an approved swale, ditch, gutter or other type of approved

drainage facility. Larger tracts of land shall be properly drained.

- * Preliminary plat to show the total acreage of the land involved in the subdivision and the acreage above the S.C. Coastal Council Critical Line, and all existing physical features of the land including contours, drainage ditches, roads and wooded areas. General drainage features shall be shown and the proposed direction of drainage on each street, ditch and lot shall be indicated by the use of arrows and proposed street names.
- * Final Plat to show all information required on the Preliminary Plat, with the exception of topographic data.

Public Works Policy Concerning The Digging and Maintaining of Canals.

- * Where there is an existing ditch maintained by the County without a drainage easement, through an area being developed or proposed for development, the County will improve the ditch so as to bring it up to County standards when men and equipment are available for this work, provided that the property owner will grant and dedicate a drainage easement in accordance with the requirements of the County Road Code.
- * Where an existing subdivision or developed area has an inadequate drainage system which is maintained by the County and the inadequate drainage system can be improved considerably by digging an outlet canal through an area being developed or proposed for development, the County will dig the canal when men and equipment are available, provided that the property owner will grant and dedicate a drainage easement in accordance with the requirements of the County Road Code. The County will not dig a canal under the conditions stated above if the required drainage work in the proposed subdivision is to be done by the developer within a reasonable length of time and will correct or improve considerably the drainage situation in the existing subdivision or development area.

City of Charleston

Zoning Ordinance:

* Height District 50W. In this district no structure shall exceed a height of fifty feet; all structures shall be set back from the high water mark a minimum of 25 feet, except that water-dependent structures shall be allowed to encroach on the 25 foot set back; and, all structures shall be set back from the high water mark of man made canals a minimum of ten feet, except that water dependent structures shall be allowed to encroach on the ten foot set back.

* Flood Hazard Areas. requires;

1. Documented, written evidence by a registered engineer that he proposed development does not place in hazard public health or safety, either on the subject property or upstream, or downstream.
2. Documented, written evidence by the owner of the land or his agent further certified by a registered engineer that proposed improvements or standards such as flood proofing, filling, excavating, etc., will be instituted to overcome encroachment upon the normal water-carrying functions of adjacent streams resulting in hazards to public health and safety.
3. Written evidence by the owner or his agent that the development shall be confined to the following permitted uses with normal safeguards to public health and safety:

In or adjacent to residential developments;

- a. agricultural uses permitted under the provisions of this chapter.
- b. railroads, streets, bridges and public utility wire and pipe lines for transmission and local distribution purposes.
- c. public parks and playgrounds and outdoor private clubs, including but not limited to country club, swimming clubs, tennis clubs, provided that no principal building is located in the floodway.
- d. recreational camp and camping grounds, provided that rest room facilities shall be located and constructed in accordance with health department requirements.

- e. commercial excavation of natural materials and improvements of a stream channel.
- f. uses accessory to those permitted in adjoining lots or tracts of land.

In or adjacent to commercial developments:

- a. any of the above permitted uses.
- b. archery range, drive-in theaters, miniature golf courses and golf driving ranges.
- c. loading and unloading areas, parking lots, used car lots.
- d. other similar uses accessory to those permitted in the adjoining district.
- e. parking lots.

In or adjacent to industrial development:

- a. agricultural uses including crop, nursery stock, and tree farming, truck gardening, livestock grazing, and other agricultural uses which are of the same or closely similar nature.
- b. storage yards for equipment and material not subject to major damage by flood, provided such use is accessory to a use permitted in an adjoining district.

- * No platting of land for residential use or purpose shall occur in areas subject to periodic flooding by normal tides, swamps, marshes, or other undrained areas, unless suitable provision is made for satisfactory drainage and the provisions of this ordinance dealing with flood hazard areas are observed.
- * Easements, when required for drainage or sewage for the area to be subdivided, shall be of such width as necessary to permit proper construction of drainage facilities based upon the drainage system of the area. No subdivision shall block or obstruct the natural drainage of an adjoining area. Existing natural drainage shall be maintained or replaced where possible or feasible.
- * Preliminary Plat (sub-regs) - information required:
 - topographic survey if drainage facilities needed.
 - the estimated boundaries of all critical areas and freshwater and saltwater wetlands based upon field tests of soil types, vegetation and hydrology or written verification from the SC Coastal Council and/or the Army Corps of Engineers that either and/or each respective agency has no jurisdiction over any of the areas of the lands shown on the plat.

- when required -- the preliminary plat shall be accompanied by a drainage plan showing profiles, plans, and specifications for public storm and sanitary sewer systems, for the entire tract.
- all lots shown on plats being processed in accordance with the subdivision regulations shall list elevations thereon of the proposed building site. Elevations shall be based on mean sea level and so indicated. The city engineer shall require on all such plats prior to final approval, the flood hazard zone(s) wherein the lot(s) is located and the prescribed finished first floor elevation requirement for that zone area. Areas with flood zone designation of "B", "C" and "D" shall not be subject to the provisions of this paragraph.
- * Within all new developments or subdivisions within the City of Charleston, concrete curb and gutter shall be required for all street rights-of-way.
- * Sidewalks shall not be required in subdivisions of developments which are physically isolated by water, marsh, saltwater wetlands or freshwater wetlands from other subdivisions or developments.
- * Final Plat shall show all information required on the preliminary plat, with the exception of topographic data. Shall also show the location of all critical areas and freshwater and saltwater wetlands verified for accuracy by the SC Coastal Council or the Corps of Engineers, or both, as appropriate, ---. If street or drainage plans shown on the plat are located in critical areas or freshwater or saltwater wetlands --verified approval must be provided from the SC Coastal Council or the Army Corps of Engineers, or both as appropriate,--.
- * Tour Boat Facility Zoning District: provides for the use of land, the structures thereon, docks, wharfs, or other such appurtenances for the purpose of embarking or disembarking of passengers for hire aboard boats for transportation to and from historic sites, or for the purpose of viewing, in Charleston Harbor or the rivers or lands adjacent thereto.
- * Site Plan Review required for most developments. Information required includes topography, drainage, landscaping plan, location of water bodies, drainage basin study and the certified location of all critical areas and freshwater and saltwater wetlands.
- * Planned Unit Development applications.
 - for each area designated for open space and recreational use, a list and conceptual drawing of the

proposed improvements and facilities shall be provided with an explanation of the ownership and maintenance of the areas and facilities.

- Proposed general plan for landscape screens and buffers including plans for peripheral areas.
- Drainage Basin Analysis.
- * Trees: No person shall cut down, remove, relocate, damage, destroy, or in any manner abuse any protected tree (8" or greater DBH) or any grand tree (24" or greater DBH) in the City in violation of the provisions of this Ordinance unless a permit is obtained. (certain exemptions for residential districts, commercial timber or tree operations, wetlands mitigation, agriculture uses, utility etc.). Site Plan required where protected trees are proposed to be removed.
- * Landscaping: Except in Conservation, Single-Family, and STR Single and Two Family Residential zoning districts, no new site development, building, structure or vehicular use area shall hereafter occur, be erected, constructed or used, nor shall any existing building, structure or vehicular use area be expanded, unless minimum landscaping and screening is provided as required by the provisions of this Article.

Restrictions on Site Clearing:

- * No land within the City shall be cleared of vegetation unless a Site Clearing Permit has been issued by the Chief Building Official. For purposes of this section, site clearing shall mean any activity which alters the contour of land or any trees or shrubs located thereon, excluding, however, routine maintenance of trees or shrubs and routine sodding. Site clearing shall be accomplished in compliance with Article 16 of the Zoning Ordinance; Tree Protection and Landscaping, and such other regulations as City Council may, from time to time, enact.
- * Sanitation and environmental Standards:
 - * All premises shall be graded and maintained so as to prevent the accumulation of stagnant water thereon, or within any building or structure located thereon.

City of Folly Beach

Land Use Plan:

- * All marsh areas should be included in a "conservation zone", incorporating the key elements of the state's coastal zone management plan.

Zoning Ordinance is in the process of revision.

Subdivision Regulations:

- * --all lots located in special flood hazard zones "A" and/or "V" shall, in addition to the regular stamp of approval, indicate for the lot(s) shown, the flood hazard zone wherein the lot(s) is (are) located and the prescribed finished first floor elevation requirement for that zone.
- * No platting of land for residential use is to occur in areas subject to flooding by normal tides, swamps, marshes, or in other undrained areas unless suitable provision has been made for satisfactory drainage. The drainage system shall be designed and constructed in accordance with the requirements of the current edition of the County Road Code.
- * Easements for drainage or sewers along rear and side property lines may be required where necessary. Drainage easements across lots shall not be allowed.
- * Drainage easements shall be provided and dedicated in accordance with the requirements of the current edition of the County Road Code.
- * Easements shall center along or be adjacent to a common property line where practical.
- * No subdivision shall block or obstruct the natural drainage of an adjoining area.
- * Existing natural drainage shall be retained or adequately relocated.
- * All easements for drainage or sewers shall be cleared of undergrowth, trees, and other obstructions by the developers prior to final approval. This does not apply to easements for possible future use.
- * Preliminary Plat shall show all existing physical features of the land, including contours, drainage ditches, roads and wooded areas --. General drainage

features shall be shown along with the proposed direction of drainage on each street, ditch, and lot shall be indicated by the use of arrows.

Town of Hollywood

Land Use Ordinance:

* Land subject to flooding, and land otherwise deemed by the Planning and Zoning Commission to be unsuitable for development, shall not be platted for such uses as may increase danger to health, life or property, or aggravate the flood hazard. This includes designated flood prone areas indicated on the current FIAA Flood Hazard Boundary Map.

* Preliminary Plat must show existing storm sewers, ditches and culverts, wooded areas, marshes, ponds, and water courses including the acreage of upstream drainage areas, and areas subject to flooding. Preliminary Plat must also show drainage plan.

* Final Plat must include drainage plan.

* All drainage conduits shall be underground, except for those instances where, due to high water table or inadequate relief, such underground conduits are technically infeasible. Drainage easements of a width required for handling storm drainage plus width for maintenance access shall be provided where needed along streams and drainage ways.

* A plat of a proposed subdivision submitted to the Planning and Zoning Commission for approval which contains lands subject to flooding shall have such areas delineated as being subject to flooding. A lot having more than one quarter of its area subject to flooding shall not be approved.

* A storm drainage system designed to protect proposed developments from flooding shall be provided in every subdivision. The system shall be adequate to carry off all storm water in its drainage area, shall not increase the hazard of flooding to areas down grade from the proposed development, and shall be installed to specifications of the Town's engineer. Where a public storm sewer is reasonably accessible -- the subdivider shall connect with such drainage system. The developer shall do all grading and provide all necessary drainage structures to carry the water and to conform with the Town standards and specifications.

City of Isle of Palms

Zoning Ordinance:

* CO Conservation District;

- Purpose;

- to provide for an appropriate valuation that reflects the conservation use of land;
- to ensure the preservation of significant natural resources;
- to lessen the hazards and loss of property, life, and the reduction of health & public safety due to periodic flooding by restricting uses in such areas;
- to provide for improved public recreation activities; and,
- to provide for scenic easements to preserve the community heritage.

- Permitted uses;

- open air recreation uses including swimming areas, fishing, beaches, boat ramp, dock, pier, lifeguard station, and natural preserve.
- public utility lines.

- * No person shall remove any tree which has a diameter breast height of 8 inches or more without first obtaining a valid tree removal permit.
- * No sign shall be erected or displayed in salt marsh areas or on land subject to periodic inundation by tidal salt marsh.
- * City Council finds that the establishment of minimum setbacks from marsh would promote a variety of purposes and goals of the City's zoning ordinance, including the protection of water quality in the waters surrounding the City, the reduction of sedimentation into the marsh, protection of the continued viability of the City's marsh resources and protection of marshfront structures from damage due to the landward movement and encroachment of the marsh.

- The minimum setback for a structure on a lot abutting the marsh shall be ten feet from the SC Coastal Council critical area or the lot line, whichever is landward.
- No impervious driveway, parking pad or other paved surface associated with vehicular use shall be located closer than twenty feet from the critical area.
- The marsh setback requirements in this section shall apply to all marshfront lots within the City. If the zoning district in which the property is located imposes a different setback requirement, the more restrictive requirement shall apply.

Subdivision Regulations:

- * Conceptual Plans are encouraged, not required. To show -- significant topographical and physical features including the location of critical area and water courses within a abutting the tract, flood hazard areas and designation of flood hazard zone -- existing and proposed drainage and utility easements -- the required marsh setback line and all wetland areas under the jurisdiction of the Coastal Council or the Army Corps of Engineers.
- * Preliminary Plat to show information required for the Conceptual Plan review, plus drainage features - detailed drainage plan may be required.
- * Critical area, land subject to flooding by normal tides, freshwater wetlands and other areas subject to periodic inundation shall not be subdivided for residential use, unless provisions are made for satisfactory drainage in accordance with the requirements of the SC Coastal Council, US Army Corps of Engineers and other regulatory agencies. All drainage systems shall be designed and constructed in accordance with the requirements of the Coastal Council and the current edition of the Charleston County Road Code.
- * Easements for drainage, and water or sewer lines, may be required along rear and side property lines where necessary. Drainage easements across lots shall not be allowed.
- * Easements shall center along or be adjacent to a common property line where practical.
- * No subdivision shall block or obstruct the natural

drainage of an adjoining area.

- * Existing natural drainage shall be retained or adequately relocated.
- * All plats for beachfront property shall contain the following note:

The Isle of Palms City Council, at the time of the approval of this plat, states for the record that it strongly opposes the future issuance of any permits for any kind of beach erosion control structures (i.e., seawalls, rip-rap, bulkheads, etc.) should any measures be requested by property owners as a result of erosion to these properties shown on this plat.

- * Utility, drainage and street improvements shall be as required by and in conformance with the standards and specifications of the current edition of the Charleston County Road Code.

Town of Mt. Pleasant

Land Use Plan is in the process of being revised.

Zoning Ordinance:

- * Preliminary Site Plan to show the approximate location of existing and proposed storm sewers.
- * Impact Assessment required for larger developments as part of the Preliminary Site Plan review process. The Assessment shall address --- the effects of the proposed major development upon: facilities and public services, the environment, natural resources, --- etc.. Must describe the impact -- on the existing drainage system, and what measures will be taken to ameliorate the impact and negate any adverse affects on adjoining properties, streets and other public ways.

Assessment must also describe in detail any site alterations proposed by the development project, including vegetation removal. Identify measures which have been or will be taken to protect the natural biologic functions of the environment. Also describe how the project proposes to retain and protect certain deciduous vegetation, such as Oaks and Palmettos having a minimum base diameter of six inches.

- * In all districts, emphasis shall be placed upon landscaping as a means of enhancing the character, value and attractiveness of both development and surrounding properties. To this end, landscaping will be required on all new developments or buildings and any old building with renovation or remodeling equaling 50 percent of the buildings value.

Landscape design and planning shall be integrated with the overall project design and environ, -- .

The natural landscape character shall be preserved in every reasonable instance, specifically, trees measuring six inches or larger in diameter DBH, shall not be felled except where authorized under the provisions of the Town's Tree Protection Ordinance.

In applying landscaping to compliment natural conditions, factors to be included in the integral design of development projects include: trees, plantings, all vegetative cover and ornamentation, paving, pedestrian benches, fountains, fences, lighting fixtures, and all the items of exterior furniture.

Landscaping shall be considered in meeting the screening requirements of this ordinance. To this end, screening may include walls, fences, earthen mounds or vegetation.

The owner, occupant tenant, and the respective agent of each, if any, shall be jointly and severally responsible for the maintenance of all landscaping.

All landscaping and planting designated on the site plans required for granting the building permit shall be installed in accordance with specified height, spread, density and quality before a certificate of occupancy is granted.

- * No sign shall be erected or displayed in salt marsh areas or on land subject to periodic inundation.
- * Marine District: It is the intent of this District to allow businesses closely related to waterfront activity which are compatible with existing marine industries. This District is further designed to allow retail and service establishments which are compatible with the characteristics of the waterfront area to locate within the zone. The conditional use procedure will be used to allow other uses not specifically permitted by demonstrating that they would not be detrimental to existing uses, and, such uses will enhance the character of the District.

Permitted Uses include: Boat building and repair -- provided it does not cause conditions objectionable to nearby areas; seafood processing, fuel docks, ice houses, marine equipment repair, marine salvage operations, seafood restaurant, recreational boating and storage, marine equipment retail, bait & tackle; and, parking. Conditional uses include retail and service establishments, and, residential uses.

District has building setback, height, and bufferyard provisions.

- * CO, Conservation - Open Space District: It is the intent of this District to:
 - Provide for and permit an appropriate valuation by the tax assessor and/or land appraiser that reflects the conservation and/or open space use of land.
 - ensure the preservation of significant natural amenities against undesirable development.
 - lessen the hazards and loss of property, life, and

the reduction of health and safety due to periodic inundation of flood waters by restricting or prohibiting uses in these areas.

- provide for opportunities for improved public recreation activities.
- provide for a community-wide recreational network of public paths, watercourses, buffer zones, and recreation spaces.
- provide for a scenic easement where important views and vistas which could preserve the community heritage could be maintained for the public good.

Permitted uses within the C0 District include open air recreational uses, public utility lines and substations, travel trailer/recreational vehicle park, churches and agricultural pursuits - excluding all animal feed lots.

Conditional Uses include recreational developments provided that a comprehensive development plan for the area is approved by the Board, and, recreational buildings, nonprofit clubs and fraternal organizations, provided that buildings are not placed less than 50 feet from any property line.

* Subdivision Regulations:

- * Plans for review and coordination that are submitted for impact assessments shall include the information required for sketch plan submittal and, in addition, shall include a master drainage plan, a master sanitary sewer plan and a master potable water distribution plan.
- * Sketch Plan shall include significant topographical and physical features including the location of watercourses within the tract, including flood hazard areas. Proposed drainage and utility easements shall also be shown.
- * Preliminary Plan shall show all existing physical features of the land, including contours, drainage ditches, roads and wooded areas. Drainage features shall be shown. Also the proposed direction on each street and ditch shall be indicated by the use of arrows. Flood hazard areas shall be shown and all proposed development of such areas shall comply with requirements of Chapter 152, Flood Hazards, of the Code of Ordinances of Mount Pleasant. Critical area limits as established by the SC Coastal Council shall

be shown if they exist on or adjacent to the property. Also any other wetland areas under the review of the SC Coastal Council or the Army Corps of Engineers shall be delineated on the Plan. The plans shall be accompanied by profiles of natural and proposed drainage ways, including pipe and ditch cross-sections. High water elevations for the 100 year frequency storm shall be shown on the profiles and on the plans. Plans must be accompanied by a stormwater drainage study prepared by a registered professional. The purpose of the study is to determine if retention or detention is necessary and to furnish design calculations for the volume of storage required, rates of run-off, and selection of inlet and outlet structures, pipes and other facilities. Included in the study shall be calculations to show that the detention device has been designed to prevent an increase in the rate of runoff due to development, in regards to the occurrence of a two year, ten year, 25 year and 100 year storm event. Increased runoff from developments will be permitted where analysis shows that the receiving facilities and waters have sufficient capacity to accept additional runoff without detriment to their flow regime. Coastal Overflow emergency devices shall be provided.

- * Final Plat shall show flood hazard zones.
- * As built plans shall show the drainage system as constructed, a revised drainage analysis shall accompany the plans where changes in the design have occurred.
- * The owner of record of record, on behalf of himself, and all successors in interest, specifically releases the Town Of Mount Pleasant from any and all liability and responsibility for flooding or erosion from storm drains or from flooding from high water or natural creeks, river or drainage features. A drainage easement is hereby established for the sole purpose of providing for the emergency protection of the free flow of surface waters along all watercourses as established by these Regulations and the Director of the Department of Planning and Engineering.
- * No platting of land for residential use is to occur in areas subject to flooding by normal tides, swamps, marshes, or in other undrained areas unless suitable provision is made for satisfactory drainage.
- * Drainage Easements. Where a subdivision is traversed by a watercourse, drainage way, channel or stream, adequate acres for stormwater or drainage easements shall be reserved, conforming substantially with the

lines of such watercourses, and of sufficient width to carry off stormwater and to provide for maintenance and improvement of such watercourses. Where practicable, drainage easements shall center along or be adjacent to a common property line.

- * A drainage system shall be designed and constructed by the subdivider to provide for the proper drainage of the surface water of the subdivision and the drainage area of which it is a part, to permit the unimpeded flow of natural watercourses.
- * Where adequate existing public storm sewers are reasonably accessible, the Board of Planning and Zoning may require that the system proposed for the land being subdivided be connected thereto.
- * Where streets are used as part of the drainage system, underground pipe drain shall be installed in accord with minimum standards on file in the Office of Planning and Engineering.
- * Where retention ponds, lakes, etc. are incorporated as part of the drainage system, the designing engineer shall designate a minimum floor elevation. Such minimum elevation shall be such that flooding shall not result from a 100 year flood.
- * The off-street drainage system shall include the water shed affecting the subdivision and shall be extended to a natural watercourse or publicly maintained ditch adequate to receive the storm drainage.
- * Open drainage ditches shall not be permitted in the Town of Mount Pleasant.
- * Any plat of a subdivision which contains land subject to flooding shall be accompanied by evidence that no appreciable expansion of the area subject to flooding would result from the proposed development of the land being subdivided, and that the proposed development will be adequately protected from inundation without appreciable interference with the flow of any watercourse or into an impounding basin.
- * In no case shall any fill, levee or other protective works be approved unless sufficient compensating adjustments of waterways, ditches or impounding basins are made to prevent any appreciable expansion of flood hazard areas.
- * No street shall be approved which would be subject to frequent inundation or flooding based on a five year flood event.

- * Low points on streets shall be designed to accommodate a 50 year flood frequency without stormwater over topping the curb.
- * Every subdivision shall be served by storm drainage facilities including drain sewers, catch basins, culverts, impoundment ponds, and other facilities required to insure that the waters draining from the developed property, including that drainage from the property in its natural condition and that increased or diverted by reason of the development, shall not be delivered to the area drainage facilities in such volume as to overtax the capacity of said facilities and cause flooding conditions in the event of a 100 year precipitation condition. All such drainage facilities shall be designed and installed in accordance with the standard specifications of the Town of Mt. Pleasant.
- * Engineering and construction on any land within the town shall be carried out in such a manner as to protect neighboring persons and property from damage or loss resulting from excessive stormwater runoff, soil erosion, or deposition upon private property or public streets of water-transported silt and debris.

City of North Charleston:

Zoning Ordinance:

- * Water-oriented facilities such as beaches, docks, marinas, boat houses, bait houses, etc., which shall be allowed to infringe into the required setback areas along shorelines and into rivers, lakes, streams and other waterways.

- * AR-I, Ashley River Scenic District I:

Boundaries; Dorchester Road, a line running along the southeasternmost boundary of Wando Woods subdivision and continuing southeast along the centerline of the Ashley River to the Mark Clark Expressway and thence in a southerly direction along the Mark Clark Expressway, a line one thousand feet of Ashley River Road (SC-61), and a boundary line drawn north to south along the western property line of Fort Dorchester. This District includes any property in the City of North Charleston which lies within Ashley River Historic District and is within 500 feet of the Ashley River and adjacent lowlands which are at or below mean high tide.

Height Limitation: No building structure shall extend more than 35 feet above ground level.

Removal of trees: Within 50 feet of the edge of the Ashley River and adjacent lowlands, trees of greater than six inches in diameter measured at 2 feet above the ground may not be removed or altered.

Buildings and structures: No buildings or structures may be erected within 50 feet of the Ashley River and adjacent lowlands.

Other alterations: Grading, filling, excavation or other land altering activity, or, the construction of impervious surfaces, may not be conducted within 50 feet of the Ashley River and adjacent lowlands. Exception-if no reasonable alternative is available for required roads or for access to the Ashley River for ingress/egress for any particular tract.

- * AR-II, Ashley River Scenic District II:

District includes any property in the City of North Charleston which lies outside the Ashley River Scenic District I, and is within 500 feet of the Ashley River and adjacent lowlands.

Prior to commencement of any grading, filling excavation, or other land altering activity or removal or cutting of trees within 50 feet of the Ashley River and adjacent lowlands, and prior to the issuance of any permits for such work, a tree survey must be submitted delineating the location of all trees 24 inches or greater in diameter measured at two feet above the ground, as well as all proposed improvements within the 50 foot zone.

Within 50 feet of the Ashley River and adjacent lowlands, all trees 24 inches in diameter measured 2 feet above the ground that are removed or cut must be replaced by two trees of at least 12 feet in height, which replacement trees shall be located elsewhere within the 50 foot zone so far as practicable.

No buildings may be located within 50 feet of the Ashley River and adjacent lowlands.

On a given lot, impervious surfaces shall not occupy more than 40 per cent of the total surface area lying within 50 feet of the Ashley River and adjacent lowlands.

Subdivision Regulations:

- * Preliminary Plat must show the location of streams, marshes, lakes, swamps, and any other conditions affecting the site, and, the size and location of existing drains and culverts --- shall also include a drainage plan.
- * No platting of land for any use whatsoever is to occur in tidal marsh areas determined to lie below the mean watermark. Subdivisions proposed for parcels containing tidal marshlands shall have displayed on the preliminary plat the mean high watermark as determined by a registered surveyor.
- * All lots, newly subdivided or not, shown on plats being processed --- shall list contour elevations thereon of the proposed building site, if they are within flood zone A or B as determined by the US Flood Insurance Administration, such elevations are to be provided by a registered surveyor or engineer ---. Based upon this certified information, the planning commission shall ---indicate for the lot(s) in the flood hazard zone wherein the lot(s) is/are located and the prescribed finished first floor elevation requirement for that zone.
- * No subdivision shall block or obstruct the natural drainage of an adjoining area. Existing natural

drainage shall be retained or adequately relocated.

- * Lots may be subdivided for used as (1) buffer areas, (2) drainage or wetlands preservation areas, (3) recreational or common areas ---, or (4) golf course and related facilities ---, --- as a condition of approval---, the current property owner shall impose thereon restrictive covenant which are enforceable by the city ---which would restrict use of the property to the proposed use and provide that it may not be sold to anyother party for anyother use or subdivided with out bringing such property into compliance with the then existing subdivision regulations of the city regarding lots for other than support facilities. Adequate provision shall be made in such restrictive covenants foe continued maintenance of such support facilities by an "approved" property owners association or other responsible entity and shall provide for an easement and lien against supported lots of membership in favor of such association or entity for the continued maintenance of such lots or facilities. Such association or entity shall be an organization operating under agreements of public record that have been reviewed and considered legally binding by legal counsel for the city.

Town of Sullivans Island

Zoning Ordinance:

- * All uses must satisfactorily comply with the requirements of the Charleston County Health Department, regarding the protection of waterways from pollution by waste materials and the protection of the atmosphere from pollution by dust, smoke, or other waste materials.
- * Residential zoning districts - setback from RC-1 Zoning District. for the purpose of creating a buffer zone that allows passive treatment of stormwater run-off before entering the waters surrounding Sullivans Island and of providing a buffer zone from floodwater and erosion caused by storms, sea level rise, and other natural conditions, the following setback requirements shall apply -- : In addition to meeting the regular minimum setback requirements, structures -- shall not be constructed or erected within 30 feet of the lot line bordering thee RC-1 zoning district boundary line or the SC Coastal Council "Critical Area Line" established as of the date of the building permit when issued, whichever is further landward. For the purpose of this section structure shall include any man made construction, including but not limited to, sheds, boathouses, garages, gazebos, and houses. 30 foot setback also required on lots adjoining RC-2 zoning districts.
- * RC Recreation and Conservation District. The Town of Sullivans Island finds that these areas greatly contribute to the health, safety and welfare of the residents of Sullivans Island and that they provide town citizens as well as visitor, with countless hours of pleasurable activity and rest and relaxation, which is important to the goal of public health, safety and welfare; further, that the boundaries of these areas are constantly shifting over unpredictable periods of time, in that they are composed of sand dunes and vegetation that ceaselessly change, and that these areas are prone to flooding, and, therefore, not suitable to development for any purpose; further, that the Town of Sullivan's Island originated as a health resort for all the people of South Carolina, and that these areas are vital to the purpose, and useful for that purpose only so long as they remain in a natural, undeveloped condition subject to the changing tides; further, that these areas, left in their natural state, provide protection to adjoining landowners and their property from the hazards of high tides and floods caused by hurricanes, tropical storms and seasonal

tides; further, that the construction of the Santee-Cooper Diversion Canal and subsequent changes in the volume of water flowing through Charleston Harbor may cause further changes of an unknown nature upon the shoreline of Sullivan's Island, all of which the Town Council find to be a threat to all the residents and property owners of the Town. Further, the Town Council finds that this area is of particular beauty in its natural state so as to provide aesthetic value necessary to the public health, safety and welfare of island residents and visitors, and in keeping with the historic uses of Sullivan's Island.

Permitted Uses: "These areas shall be preserved in their natural state".

- * No drainage of water to the beach other than natural drainage shall be allowed.
- * District RC-2 restrictions. There shall be no construction of any type, no destruction of vegetation, except trimming, cutting and pruning of back beach bushes and trees -- and non man-made changes of topography, except that the construction of private docks by owners of lots adjoining this area may be permitted --- . Limits on the dimensions of docks, and no dock shall be permitted where the length would exceed 300 feet, or, extend so far as to interfere with a channel or navigation.

Dorchester County

Land Use Plan;

* Overall Land Use Goals;

- * The image and character of Dorchester County as being a aesthetically pleasing and a progressive place in which to live and work.
- * Open spaces which enhance the quality of natural resources, offer outdoor recreational opportunities, and, strengthen the identity of individual residential, commercial, industrial and other developments.

* Land Use Policies;

- * All types of developments should include significant areas of pervious surfaces;
- * All water quality standards as established by the State should be attained;
- * The filling or alteration of wetlands, watercourses and bodies of water is strongly discouraged;
- * The alteration of areas immediately adjacent to wetlands, watercourses and bodies of water should be discouraged;
- * The construction of impervious surfaces, land altering activities such as grading or filling, and the removal of living trees greater than 6" in diameter (unless replaced by a tree of similar size) should not be allowed within 50 feet of the edges of wetlands, watercourses or bodies of water. (excepting support structures for water dependent uses, community recreation areas, access paths, and, recreational path systems);
- * Any structure located in a designated flood hazard area must meet the applicable construction and location standards established by FEMA;
- * Development within flood prone areas should

be carefully designed so as to minimize damages from rising water;

- * The county should ensure that developments including common areas set aside for storm water management or other purposes, include provisions to perpetually maintain those common areas;
- * The maximum allowable density for residential developments should be increased (bonus provisions) if the developer meets specific design criteria which significantly exceeds minimum standards for such types of development. (open space ratios - pervious surface areas - special storm water management facilities); and,
- * Preserve and develop areas that have special value, such as look-out points with unique vistas,-, shorelines, wetlands, etc..

Implementation Strategy;

- * Identification of S.C. Coastal Council "Critical" Areas, FEMA Special Flood Hazard Areas, and, Flood Prone Areas should be maintained on file at the office of the Planning Board; and,
- * The County needs to prepare a County Drainage Plan.

Zoning and Development Standards Ordinance:

* Transitional Overlay District; Section 8.2

- * (one of district objectives) To encourage and better articulate positive visual experiences along the County's major existing and proposed traffic arteries, and water and/or marshland frontages, and to provide for the continued safe, ecologically sound and efficient utilization of same;
- * Objectives will be achieved through formal review and regulation of development along such designated waterways and arterials, by the planning staff, under the oversight of the Planning Board Architectural Review Committee.
- * Overlay District includes all lands, including wetlands and/or marshland, which

are situated within 500 ft. landward on either side of a designated waterway;

- * The Ashley River from the Charleston County Line to Slands Bridge is the only "Designated" waterway as of this date;
 - * Minimum Visual Buffer of 7' along waterways- maximum required shall not exceed 20 ft.;
 - * Within the Minimum Visual Buffer there shall be no development, clearing, grading or construction activity. (excepting installation of infrastructure - Plan must specify what vegetation is to be retained);
 - * Includes various standards for size and density of vegetation which must be retained (per 250 sq. ft.) within the required minimum buffer area;
 - * The intent is to encourage retention of existing healthy vegetation and to achieve through either existing or new planting placement and spacing a reasonably uniform and consistent visual enhancement along arterials and waterways;
- * General Standards - Environmental Performance: Section 8.3.
- * Watercourses and bodies of water - defined to include rivers, streams, creeks, and other areas of flowing water, lakes, ponds and other areas of open water.
- No structures may be constructed in or above existing watercourses and bodies of water. exceptions-bridges, recreational docks and piers, unenclosed recreational structures.
- The filling or alteration of watercourses and bodies of water is prohibited - unless minor changes provided for in an approved plan to improve drainage, or, to allow for the construction of required roads when no reasonably available alternative is available..
- * Wetlands - Any area periodically covered by water and to which vegetation characteristic of wetland areas has adapted.
- Alteration of wetlands is discouraged.

U.S. Corp of Engineers permit required must be obtained prior to any application for development approval, building permit application or the commencement of any land alterations.

In wetlands not subject to Coastal Council or Corp of Engineers permits, the Zoning Administrator may permit; pilings for docks and piers; drainage improvements included in an approved plan; and, necessary alterations for required roads.

Shorelines.

Living trees >6" in circumference may not be removed within 50 feet of watercourses, bodies of water and wetlands, unless replaced by another similar tree.

Grading, filling, excavation or other land altering activity is not allowed within 50 feet of watercourses, bodies of water and wetlands. No impervious surfaces may be constructed within 50 feet of these same shorelines.

Exceptions to these requirements may be made for; access paths; community recreation areas; necessary alterations for required roads; pilings for docks and piers; and, other necessary support structures for water dependent uses.

- * Flood Hazard Areas; - must meet applicable construction and location standards established by FEMA.

The Zoning Administrator will identify and maintain a map of the County depicting areas with a documented history of frequent flooding. Proposed developments including such areas must submit a drainage plan that will ensure that; structures built on the property will not be flooded, and roads serving these structures will remain passable as a consequence of a ten year rainfall event; and, development on the site will not significantly increase the incidence or severity of flooding either upstream or downstream.

* Developments Affecting National Historic Landmarks and National Register Properties; Section 9.2.

- * Intent is to preserve the integrity of these landmarks and properties, and the use and enjoyment of these landmarks and properties by the citizens of Dorchester County and the public at large --.
- * A special Area Permit is required for any development; that would physically alter a National Historic Landmark or Register Property including Highway 61 to the Charleston County Line; that, by the creation of vibration, air emissions, noise or odor, would in all likelihood produce physical alterations in such property, or substantially impair the use and enjoyment of such property-; and, for such properties situated along rivers, would be visible from ground level of the property, up or down the riverside landscape, up to a distance of 10,000 feet from such landmark or property.
- * Permit application shall demonstrate that the best available development and management practices will be used to minimize adverse impacts on the property, and shall provide detailed specifications for such practices and the manner in which they will be incorporated into the development. Such best available development and management practices shall be added to the other requirements of this Ordinance for the development in question.
- * Standards for a Special Area Permit:
 - no structure more than three stories in height, or the top of the surrounding tree canopy, whichever is lower;
 - Landscape Plan required - no trees may be removed within 100 feet of the edge of the river, or of wetland areas abutting the river unless in accordance with the approved plan-plan must provide for; the maintenance of a tree buffer that screens the development from the landmark or property; the retention of natural vegetative and topographical

features to the maximum extent practicable; planting and maintenance of additional vegetative buffers as needed to effectively screen the development from the landmark or property; and, the requirements of section 8.3.3 of this Ordinance dealing with shorelines. Landscape Plan not required for access paths less than 12 feet in width that provide ingress to and egress from the river or wetland area.

- * Owner of Landmark or National Registered Property shall be notified of proposed developments and be provided the opportunity to comment. Owner may appeal the granting of a Special Area Permit.
- * Zoning Administrator shall maintain a file for each area - that is designated a Landmark or Registered Property. File shall include a description of the property, copies of the designation documents and a map showing the designated property.
- * Properties confirmed by the Dept. of Archives & History as National Register Properties:
 - Old Dorchester State Park
 - Middleton Place
 - Indian Fields Methodist Camp Ground.
 - Old Carroll Place.
 - Newington Plantation
 - Summerville Historical District
 - Appleby's Methodist Church
 - Cypress Methodist Camp Ground
 - Ashley River Road.

Subdivision Regulations:

* Preliminary Plan Requirements:

- * Plan must show named waterways - existing & proposed storm drains - Flood Hazard zones (FEMA).
- * Drainage Easements required within a

subdivision is traversed by a watercourse, drainageway, channel or stream, where practicable, drainage easements shall center along or be adjacent to a common property line. Formula for minimum easement: three times the depth, plus the bottom width, plus twenty feet. The ditch will be offset in the easement to provide fifteen feet on one side for the purpose of maintenance.

- * Maintenance: unless otherwise specified by this Ordinance, the County shall maintain only those easements specifically accepted for public maintenance. Other easements shall stipulate that contiguous owners shall be responsible for general maintenance of such easements.
- * Design and construction of drainage systems is required by the developer. Design of the system shall be based in the rational method of determination utilizing the 10 year rainfall frequency curve with consideration of the 100 year flood information. Must be designed by a licensed professional engineer..
- * Where adequate existing public sewers are reasonably accessible, the Planning Board may require connection thereto.
- * Where adequate existing public storm sewerage are reasonably accessible, the Planning Board may require connection thereto.
- * Street drainage shall serve as the primary discharge system. All streets shall be provided with an adequate storm drainage system. The centerline of all streets should be at or above the 10 year flood line.
- * The off-street drainage system shall include the watershed effecting the subdivision and shall be extended to a water course or ditch adequate to receive the storm drainage. All right-of-ways necessary to carry drainage to a major drainage outfall shall be obtained by the developer.
- * Areas Subject to Flooding: Platt shall be accompanied by evidence that no appreciable expansion of the area subject to flooding

would result from the proposed development of the land being subdivided, and the proposed development will be adequately protected from inundation without appreciable interference with the flow of any watercourse or into an impounding basin.

In no case shall any fill, levee or other protective works be approved unless sufficient compensating adjustment of waterways, ditches or impounding basins are made to prevent any appreciable expansion of the flood hazard areas.

- * The County will not consider accepting maintenance responsibility for a minimum period of 12 months and 75% build-out, or 24 months, whichever occurs first. Then the County may accept such responsibilities if the system does not reveal conditions of abnormal "wear and tear".
- * Continued maintenance of private drainage systems requires the developer to organize a charter a property owners association for this purpose.

Town of Summerville

Land Use Plan:

- * Sawmill Branch and Fort Dorchester are designated as "Resource" areas which deserve protection from incompatible uses.
- * "evaluation of proposed projects and zoning changes should precede any action to permit development in contiguous areas".

Zoning Ordinance:

- * Provides for building design and site plan reviews for larger undeveloped tracts. Areas of concern during these reviews include:
 - surface water drainage, and,
 - special features.

Design Requirements for Streets:

- * Clearing and Grubbing:
 - The full width and all drainage easements shall be cleared.
 - Except as otherwise specified herein, all clearing and grubbing work will be done in accordance with the requirements of the SC State Highway Department's Standard Specifications for Highway Construction, current edition.
- * A drainage system shall be designed and constructed to provide for the proper drainage of the surface water of the development and the drainage area of which it is a part and to permit the unimpeded flow of natural water courses. Design of the system shall be based in the rational method of determination utilizing the ten year rain frequency curve with consideration of the 100 year flood information.
- * Where adequate existing public storm sewers are reasonably accessible, the Street Committee may require that the system proposed for the land be connected thereto.
- * Street drainage shall serve as the primary drainage system. All streets shall be provided with an adequate storm drainage system.

- * Where curb and gutters and catch basin are provided, they shall be designed in accordance with specifications contained in the South Carolina State Highway Department, Standard Specifications for Highway Construction, latest edition.
- * The off-street system shall include the water shed affecting the subdivision and shall be extended to a watercourse or ditch adequate to receive the storm drainage and shall be designed in accordance with the following requirements.
 - when the drainage system is outside of the street right-of-way, the subdivider shall provide all required easements.
 - open ditch drainage may be used. However, when open ditches are used to meet these requirements, they shall be adequately protected from erosion.
 - all major rights-of-ways necessary to carry the storm drainage to a major drainage outfall shall be obtained by the subdivider.
- * Street drainage and subdivision drainage shall be tied into a canal which is maintained by a public agency, a tidal stream with bottom elevation of approximately M.L.W. or lower, or a running stream with continuous flow (fresh water creek) of adequate size.
- * If drainage is taken into a canal or ditch maintained by a public agency other than the Town of Summerville, or if work is done within the right-of-way of a public agency other than the Town of Summerville, written approval must be obtained from the public agency and a copy of this approval must be furnished to the Street Committee.
- * For minor ditches which drain into a collector or main ditch or into a piped drainage system, the width of the drainage easement shall be equal to the maximum top width of the ditch plus an additional twenty feet, provided that the maximum depth of the ditch does not exceed five feet. When the maximum depth of the ditch exceeds five feet, the width of the drainage easement shall be equal to the maximum top width of the ditch plus the maximum depth of the ditch, plus an additional fifteen feet. For major or main drainage ditches or canals, the width of the drainage easement shall be equal to the maximum top width of the ditch plus an additional twenty-five feet, provided that the maximum depth of the ditch or canal exceeds five feet, the width of the drainage easement shall be equal to the maximum top width of the ditch plus the maximum

depth of the ditch, plus an additional twenty feet.

- * For minor swale ditches along lot lines draining a small area where street drainage is not involved and where the depth of the swale does not exceed one foot, a drainage easement not less than fifteen feet in width shall be provided and dedicated.

Tree Protection Ordinance:

- * Trees in excess of 6" diameter - breast height - protected. Some exceptions (Commercial Tree Operations, etc.).

AN ORDINANCE PROVIDING FOR THE PREVENTION OF FLOOD DAMAGE; PROVIDING FOR DEVELOPMENT PERMITS PRIOR TO COMMENCEMENT OF DEVELOPMENT ACTIVITIES; DESIGNATING THE PLANNING COMMISSION OF BERKELEY COUNTY AS LOCAL ADMINISTRATOR; ESTABLISHING VARIANCE PROCEDURES; SETTING STANDARDS FOR FLOOD HAZARD REDUCTION; PROVIDING FOR PENALTIES FOR VIOLATIONS; AND PROVIDING FOR OTHER MATTERS PURSUANT THERETO

ARTICLE 1. STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES

SECTION A. STATUTORY AUTHORIZATION

The Legislature of the State of South Carolina has in 4-9-30, et. seq. of the South Carolina Code of Laws 1976, as amended, delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the County Council of Berkeley County, South Carolina does ordain as follows:

SECTION B. FINDINGS OF FACT

- (1) The flood hazard areas of Berkeley County are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.
- (2) These flood losses are caused by the cumulative effect of obstructions in flood plains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, flood-proofed, or otherwise unprotected from flood damages.

SECTION C. STATEMENT OF PURPOSE

It is the purpose of this ordinance to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- (1) restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- (2) require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (3) control the alteration of natural flood plains, stream channels, and natural protective barriers which are involved in the accomodation of flood waters;

- (4) control filling, grading, dredging and other development which may increase erosion or flood damage; and,
- (5) prevent or regulate the construction of flood barriers which will naturally divert flood waters or which may increase flood hazards to other lands.

SECTION D. OBJECTIVE

The objectives of this ordinance are:

- (1) to protect human life and health;
- (2) to minimize expenditure of public money for costly flood control projects
- (3) to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) to minimize prolonged business interruptions;
- (5) to minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in flood plains;
- (6) to help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize future flood blight areas; and,
- (7) to insure that potential home buyers are notified that property is in a flood area.

ARTICLE 2. DEFINITIONS

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

"Addition (to an existing building)" means any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by independent perimeter load-bearing walls is new construction.

"Appeal" means a request for a review of the Planning Commission Administrator's interpretation of any provision of this ordinance or a request for a variance; or a request for a review of the Berkeley County Planning Commission's interpretation of any provision of this ordinance or action on request for variance.

"Area of shallow flooding" means a designated AO or VO Zone on a community's Flood Insurance Rate Map (FIRM) with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

"Area of special flood hazard" is the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year.

"Base flood" means the flood having a one percent chance of being equalled or exceeded in any given year.

"Basement" means that portion of a building having its floor subgrade (below ground level) on all sides.

"Breakaway wall" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.

"Building" means any structure built for support, shelter, or enclosure for any occupancy or storage.

"Coastal High Hazard Area" means the area subject to high velocity waters caused by, but not limited to, hurricane wave wash or tsunamis. The area is designated on a FIRM as Zone VI-30, VE or V.

"Development" means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or permanent storage of materials.

"Elevated building" means a non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns (posts and piers), shear walls, or breakaway walls.

"Existing Construction" Any structure for which the "start of construction" commenced before (the effective date of the first floodplain management code, ordinance, or standard based upon specific technical base flood elevation data which establishes the area of special flood hazard.

"Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community (before the effective date of the first floodplain management code, ordinance, or standard based upon specific technical base flood elevation data which

established the area of special flood hazard.

"Expansion to an existing manufactured home park or subdivision" means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

"Flood" or "flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) the overflow of inland or tidal waters
- (2) the unusual and rapid accumulation of runoff of surface waters from any source.

"Flood Hazard Boundary Map (FHBM)" means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the areas of special flood hazard have been defined as Zone A.

"Flood Insurance Rate Map (FIRM)" means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

"Flood Insurance Study" is the official report provided by Federal Emergency Management Agency. The report contains flood profiles, as well as the Flood Boundary-Floodway Map and the water surface elevation of the base flood.

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

"Floor" means the top surface of an enclosed area in a building (including basement), i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.

"Functionally dependent facility" means a facility which cannot be used for its intended purpose unless it is located or carried out in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, ship repair, or seafood processing facilities. The term does not include long-term storage, manufacture, sales, or service facilities.

"Highest Adjacent Grade" means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a structure.

"Historic Structure" means any structure that is

- a. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register;

- b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- c. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- d. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 1. By an approved state program as determined by the Secretary of the Interior, or
 2. Directly by the Secretary of the Interior in states without approved programs.

"Mangrove stand" means an assemblage of mangrove trees which is mostly low trees noted for a copious development of interlacing adventitious roots above the ground and which contain one or more of the following species: black mangrove (Avicennia nitida); red mangrove (Rhizophora mangle); white mangrove (Languncularia racemosa); and buttonwood (Conocarpus erecta).

"Mean Sea Level" means the average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the flood plain. For purposes of this ordinance, the term is synonymous with National Geodetic Vertical Datum (NGVD).

"Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term also includes park trailers, travel trailers, and similar transportable structures placed on a site for 180 consecutive days or longer and intended to be improved property.

"National Geodetic Vertical Datum (NGVD)" as corrected in 1929 is a vertical control used as a reference for establishing varying elevations within the floodplain.

"New construction" means structures for which the "start of construction" commenced on or after the effective date of this ordinance.

"New Manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final sites grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by a community.

"Recreational vehicle" means a vehicle which is:

- a. built on a single chassis;
- b. 400 square feet or less when measured at the largest horizontal projection;
- c. designed to be self-propelled or permanently towable by a light duty truck; and
- d. designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Sand dunes" means naturally occurring accumulations of sand in ridges or mounds landward of the beach.

"Start of construction" (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (P. L. 97-348), includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or the placement of a manufacture home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

"Structure" means a walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank, or other man-made facilities or infrastructures.

"Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

"Substantial improvement" means any combination of repairs, reconstruction, alteration, or improvements to a structure, taking place during a five (5) year period, in which the cumulative cost equals or exceeds fifty percent of the market value of the structure. The market value of the structure should be (1) the appraised value of the structure prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the structure prior to the damage occurring. For the purposes of this definition, "substantial improvement" is considered to occur when the first alteration of

any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include any project for improvement of a structure required to comply with existing health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions.

"Substantially improved existing manufactured home parks or subdivisions" is where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

"Variance" is a grant of relief to a person from the requirements of this ordinance which permits construction in a manner otherwise prohibited by this ordinance where specific enforcement would result in unnecessary hardship.

ARTICLE 3. GENERAL PROVISIONS

SECTION A. LANDS TO WHICH THIS ORDINANCE APPLIES

This ordinance shall apply to all areas of special flood hazard within the jurisdiction of Berkeley County.

SECTION B. BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD

The areas of special flood hazard identified by the Federal Emergency Management Agency in its Flood Insurance Study, FIRM, and final base flood elevations published in Federal Register at 47 F.R. 57074 on December 22, 1982, with accompanying maps and other supporting data, and any revision thereto are adopted by reference and declared to be a part of this ordinance.

SECTION C. ESTABLISHMENT OF DEVELOPMENT PERMIT

A Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities.

SECTION D. COMPLIANCE

No structure or land shall hereafter be located, extended, converted, or structurally altered without full compliance with the terms of this ordinance and other applicable regulations.

SECTION E. ABROGATION AND GREATER RESTRICTIONS

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

SECTION F. INTERPRETATION

In the interpretation and application of this ordinance all provisions shall be: (1) considered as minimum requirements; (2) liberally construed in favor of the governing body; and (3) deemed neither to limit nor repeal any other powers granted under state statutes.

SECTION G. WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of Berkeley County or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made thereunder.

SECTION H. PENALTIES FOR VIOLATION

Violation of the provision of this ordinance or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$200 or imprisoned for not more than 30 days. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the county from taking other lawful action as is necessary to prevent or remedy any violation.

ARTICLE 4 ADMINISTRATION

SECTION A. DESIGNATION OF PLANNING COMMISSION ADMINISTRATOR

The P.C.A. is hereby appointed to administer and implement the provisions of this ordinance.

SECTION B. PERMIT PROCEDURES

Application for a Development Permit shall be made to the P.C.A. on forms furnished by him, prior to any development activities, and may include, but not be limited to, the following plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials; drainage facilities, and the location of the foregoing. Specifically, the following information is required:

(1) Application Stage.

(a) Elevation in relation to mean sea level of the proposed

lowest floor (including basement) of all structures;

- (b) Elevation in relation to mean sea level to which any non-residential structure will be flood-proofed;
 - (c) Certificate from a registered professional engineer or architect that the non-residential flood-proofed structure will meet the flood-proofing criteria in Article 5, Section B (2);
 - (d) Description of the extent to which any watercourse will be altered or relocated as a result of proposed development; and
- (2) Construction Stage.

Provide a floor elevation or flood-proofing certification after the lowest floor is completed, or in instances where the structure is subject to the regulations applicable to Coastal High Hazard Areas, after placement of the horizontal structural members of the lowest floor. Upon placement of the lowest floor, or flood-proofing by whatever construction means, or upon placement of the horizontal structural members of the lowest floor, whichever is applicable, it shall be the duty of the permit holder to submit to the P.C.A. a certification of the elevation of the lowest floor, flood-proofed elevation, or the elevation of the lowest portion of the horizontal structural members of the lowest floor, whichever is applicable, as built, in relation to mean sea level. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When flood-proofing is utilized for a particular building, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. Any work undertaken prior to submission of the certification shall be at the permit holder's risk. The P.C.A. shall review the floor elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby, shall be cause to issue a stop-work order for the project.

SECTION C. DUTIES AND RESPONSIBILITIES OF THE P.C.A.

Duties of the P.C.A. shall include, but not be limited to:

- (1) Review all development permits to assure that the permit requirements of this ordinance have been satisfied.
- (2) Advise permittee that additional federal or state permits may be required, and if specific federal or state permits are known,

require that copies of such permits be provided and maintained on file with the development permit.

- (3) Notify adjacent communities, the Water Resources Commission, the Coastal Council, and the U.S. Army Corps. of Engineers, if appropriate, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- (4) Assure that maintenance is provided with the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.
- (5) Verify and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, in accordance with Article 4, Section B. (2).
- (6) Verify and record the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been flood-proofed, in accordance with Article 4, Section B. (2).
- (7) In Coastal High Hazard Areas certification shall be obtained from a registered professional engineer or architect that the structure is securely anchored to adequately anchored pilings or columns in order to withstand velocity waters and hurricane wave wash.
- (8) In Coastal High Hazard Areas, the P.C.A. shall review plans for the adequacy of breakaway walls in accordance with the Article 5, Section B(5) (h).
- (9) When flood-proofing is utilized for a particular structure, the P.C.A. shall obtain certification from a registered professional engineer or architect, in accordance with Article 5, Section B (2).
- (10) Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the P.C.A. shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.
- (11) When base flood elevation data or floodway data have not been provided in accordance with Article 3, Section B, then the P.C.A. shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer the provisions of Article 5.

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- (12) All records pertaining to the provisions of this ordinance shall be maintained in the office of the P.C.A. and shall be open for public inspection.

SECTION D. VARIANCE PROCEDURES

- (1) The PLANNING COMMISSION as established by BERKELEY COUNTY COUNCIL shall hear and decide appeals and requests for variances from the requirements of this ordinance.
- (2) The Planning Commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the P.C.A. in the enforcement or administration of this ordinance. Any person aggrieved by an action of the Planning Commission Administrator may appeal such action by filing a Notice of Appeal in writing, with the Secretary of the Planning Commission of Berkeley County, within 15 days of the notice to the person of the action of the Planning Commission Administrator. The Secretary shall immediately notify the Planning Commission Administrator whose action is being appealed and the Chairman of the Berkeley County Planning Commission. The Chairman shall place the appeal on the agenda of a regular or special meeting of the Planning Commission to be held not more than 30 days after the Notice of Appeal is filed. Such hearing may be postponed or continued to a later date not more than one time, and the later date shall be no more than two weeks after the original date. Written notice shall be given by the Secretary to the person taking the appeal of the date, time and place of the hearing. The Planning Commission shall make its decision within 15 days of the date of the hearing or any continuance thereof.
- (3) Any person aggrieved by a decision of the Berkeley County Planning Commission may appeal such a decision to the Berkeley County Council, by filing a Notice of Appeal with the Clerk to Council, in writing, within 15 days of the notice to the person of the action of the Planning Commission. The Clerk shall immediately notify the Chairman of the Planning Commission and the Chairman of the County Council. The Chairman of the County Council shall place the appeal on the agenda of a regular or special meeting of the Berkeley County Council to be held not more than 30 days after the Notice of Appeal is filed with the Clerk to Council. Written notice shall be given by the Clerk to Council to the person taking the appeal of the date, time and place of the hearing. The County Council shall make its decision within 15 days of the hearing on the matter.

Any person aggrieved by the decision of the County Council on an appeal may file an appropriate court action within the time and in the manner provided by State law.

- (4) Variances may be issued for the reconstruction, rehabilitation or

restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places without regard to the procedures set forth in the remainder of this section, except for Article 4, Section D. (8) (a) and (d), and provided the proposed reconstruction, rehabilitation, or restoration will not result in the structure losing its-historical designation.

- (5) In passing upon such applications, the Planning Commission shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:
 - (a) the danger that materials may be swept onto other lands to the injury of others;
 - (b) the danger to life and property due to flooding or erosion damage;
 - (c) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - (d) the importance of the services provided by the proposed facility to the community;
 - (e) the necessity to the facility of a waterfront location, in the case of a functionally dependent facility;
 - (f) the availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - (g) the compatibility of the proposed use with existing and anticipated development;
 - (h) the relationship of the proposed use to the comprehensive plan and flood plain management program for that area;
 - (i) the safety of access to the property in times of flood for ordinary and emergency vehicles;
 - (j) the expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,
 - (k) the costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.
- (6) Upon consideration of the factors listed above and the purposes of this ordinance, the Planning Commission may attach such conditions

to the granting of variances as it deems necessary to further the purposes of this ordinance.

- (7) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (8) Conditions for Variances
 - (a) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and in the instance of a historical building, a determination that the variance is the minimum necessary so as not to destroy the historic character and design of the building;
 - (b) Variances shall only be issued upon (i) a showing of good and sufficient cause; (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant; and, (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
 - (c) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the structure is to be built and stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
 - (d) The P.C.A. shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

ARTICLE 5 PROVISIONS FOR FLOOD HAZARD REDUCTION

SECTION A. GENERAL STANDARDS

In all areas of special flood hazard the following provisions are required:

- (1) New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
- (2) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state requirements for resisting wind forces.

- (3) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- (4) New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
- (5) Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- (6) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (7) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
- (8) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- (9) Any alteration, repair, reconstruction, or improvements to a structure which is in compliance with the provisions of this ordinance, shall meet the requirements of "new construction" as contained in this ordinance.
- (10) Any alteration, repair, reconstruction or improvements to a building which is not in compliance with the provisions of this ordinance, shall be undertaken only if said non-conformity is not furthered, extended, or replaced.

SECTION B. SPECIFIC STANDARDS

In all areas of special flood hazard where base flood elevation data has been provided, as set forth in Article 3, Section B, or Article 4, Section C (11), the following provisions are required:

- (1) Residential Construction - New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated no lower than one (1) foot above the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided in accordance with standards of Article 5, Section B (3).
- (2) Non-residential Construction - New construction or substantial improvement of any commercial, industrial or other non-residential structure (or manufactured home) shall either have the lowest floor, including basement, elevated no lower than one (1) foot above the level of the base flood elevation. Structures located

in all A-zones may be flood-proofed in lieu of being elevated provided that all areas of the structure below the required elevation are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth in Article 4, Section B (3).

(3) Elevated Buildings. New construction or substantial improvements of elevated buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall be designed to preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.

- (a) Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
 - (i) Provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
 - (ii) The bottom of all openings shall be no higher than one foot above grade; and,
 - (iii) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both direction.
- (b) Electrical, plumbing, and other utility connections are prohibited below the base flood elevation;
- (c) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator); and
- (d) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.

(4) Standards for Manufactured Homes and Recreational Vehicles.

- (a) All manufactured homes placed, or substantially improved, individual lots or parcels, in expansions to existing manufactured home parks or subdivision, or in substantially improved manufactured home parks or subdivisions, must meet all the requirements for new construction, including

elevation and anchoring.

(b) All manufactured homes placed or substantially improved in an existing manufactured home park or subdivision must be elevated so that:

- (i). The lowest floor of the manufactured home is elevated no lower than one (1) foot above the level of the base flood elevation, or
- (ii). The manufactured home chassis is supported by reinforced piers or other foundation elements of at least an equivalent strength, of no less than 36 inches in height above grade.
- (iii). The manufactured home must be securely anchored to the adequately anchored foundation system to resist flotation, collapse and lateral movement.
- (iv). In an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, any manufactured home placed or substantially improved must meet the standards of Article 5, Section B(4)(b)(i) and (iii) above.

(c) All recreational vehicles placed on sites must either:

- (i) Be fully licensed and ready for highway use, or
- (ii) The recreational vehicle must meet all the requirements for new construction, including anchoring and elevation requirements of Article 5, Section B (4)(a) or (b) (i) and (iii).

A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached structures.

(5) Floodways - Located within areas of special flood hazard established in Article 3, Section B, are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and has erosion potential, the following provisions shall apply:

- (a) Prohibit encroachments, including fill, new construction, substantial improvements and other developments unless

certification by a registered professional engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood discharge.

(b) If Article 5, Section B(4), is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Article 5.

(c) Prohibit the placement of manufactured homes (mobile homes), except in an existing manufactured homes (mobile homes) park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring standards of Article 5, Section B(1) are met.

(6) Coastal High Hazard Areas (V Zones) - Located within the areas of special flood hazard established in Article 3, Section B, are areas designated as Coastal High Hazard Areas. These areas have special flood hazards associated with wave wash, therefore, the following provisions shall apply:

(a) All buildings or structures shall be located 20 feet landward of the the reach of the mean high tide.

(b) All buildings or structures shall be elevated so that the bottom of the lowest supporting horizontal member (excluding pilings) is located no lower than one (1') foot above the base flood elevation level, with all space below the lowest supporting member open so as not to impede the flow of water. Open lattice work or decorative screening may be permitted for aesthetic purposes only and must be designed to wash away in the event of abnormal wave action and in accordance with ' Article 5, Section B (5)(h).

(c) All buildings or structures shall be securely anchored on pilings or columns.

(d) All pilings or columns and the attached structures shall be anchored to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components. The anchoring and support system shall be designed with wind and water loading values which equal or exceed the 100 year mean recurrence interval (one percent annual chance flood).

(e) A registered professional engineer or architect shall certify that the design, specifications and plans for construction are in compliance with the provisions contained in Article 5, Section B (5)(b), (c) and (d) of this ordinance.

- (f) There shall be no fill used as structural support. Non-compacted fill may be used around the perimeter of a building for landscaping/aesthetic purposes provided the fill will wash out from storm surge, (thereby rendering the building free of obstruction) prior to generating excessive loading forces, ramping effects, or wave deflection. The P.C.A. shall approve design plans for landscaping/aesthetic fill only after the applicant has provided an analysis by an engineer, architect, and/or soil scientist, which demonstrates that the following factors have been fully considered:
- (i) Particle composition of fill material does not have a tendency for excessive natural compaction;
 - (ii) Volume and distribution of fill will not cause wave deflection to adjacent properties; and
 - (iii) Slope of fill will not cause wave run-up or ramping.
- (g) There shall be no alteration of sand dunes or mangrove stands which would increase potential flood damage.
- (h) Lattice work or decorative screening shall be allowed below the base flood elevation provided they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action, without damage to the structural integrity of the building on which they are to be used and provided the following design and specifications are met:
- (i) No solid walls shall be allowed; and
 - (ii) Material shall consist of wood or mesh screening only.
- (i) If aesthetic lattice work or screening are utilized, such enclosed space shall not be used for human habitation, but shall be designed to be used only for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises.
- (j) Prior to construction, plans for any structure that will have lattice work or decorative screening must be submitted to the P.C.A. for approval;
- (k) Any alteration, repair, reconstruction or improvement to a structure shall not enclose the space below the lowest floor except for lattice work or decorative screening, as provided for in Article 5, Section B(5) (h) and (i).
- (l) Prohibit the placement of manufactured homes (mobile homes), except in an existing manufacture homes (mobile homes) park

or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring standards of Article 5, Section A(2), and the elevation standards of Article 5, Section B(1) are met.

SECTION C. STANDARDS FOR STREAMS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS AND/OR FLOODWAYS.

Located within the areas of special flood hazard established in Article 3, Section B, where small streams exist but where no base flood data have been provided or where no floodways have been provided, the following provisions apply:

- (1) No encroachments, including fill material or structures shall be located within a distance of the stream bank equal to five (5) times the width of the stream at the top of bank or twenty (20) feet each side from top of bank, whichever is greater, unless certification by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- (2) New construction or substantial improvements of structures shall be elevated or flood-proofed to elevations established in accordance with Article 4, Section C (11).

SECTION D. STANDARDS FOR SUBDIVISION PROPOSALS

- (1) All subdivision proposals shall be consistent with the need to minimize flood damage.
- (2) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
- (3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards.
- (4) Base flood elevation data shall be provided for subdivision proposals and other proposed development including manufactured home parks and subdivisions) which is greater than the lesser of fifty lots or five acres.

SECTION E. STANDARDS FOR AREAS OF SHALLOW FLOODING (AO ZONES)

Located within the areas of special flood hazard established in Article 3, Section B, are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one to three feet (1'-3') where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate; therefore, the following provisions apply:

- (1) All new construction and substantial improvements of residential structures shall have the lowest floor, including basement, elevated to the depth number specified on the Flood Insurance Rate Map, in feet, above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement, shall be elevated at least two (2) feet above the highest adjacent grade.
- (2) All new construction and substantial improvements of non-residential structures shall:
 - (a) have the lowest floor, including basement, elevated to the depth number specified on the Flood Insurance Rate Map, in feet above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement, shall be elevated at least two (2) feet above the highest adjacent grade, or,
 - (b) together with attendant utility and sanitary facilities be completely flood-proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

ARTICLE 6. This Ordinance shall become effective on October 23, 1990.